L 29336-66   EWT(m)/T/EWP(t)   IJP(c)   WW/JD/JG

ACC NR: AR6004371   SOURCE CODE: UR/0081/65/000/015/B068/B068

AUTHOR: Repenko, K. N.; Getman, I. A.; Gul'ko, N. V.

TITLE: Stabilization and destabilization of zirconium dioxide cubic form

SOURCE: Ref. zh. Khimiya, Abs. 15B488

REF SOURCE: Sb. nauchn. tr. Ukr. n.-i. in-t ogneuporov, vyp. 7(54), 1963, 204-212

TOPIC TAGS: zirconium, zirconium oxide, zirconium compound, cubic crystal, structure stability, CaO, MgO, heat change of state, vacuum chamber, CHEMICAL STABILIZATION, SOLID SOLUTION

ABSTRACT: The stabilization of ZrO_2 in a commercial zirconium dioxide (93.96% ZrO_2) was studied by methods of chemical, x-ray, and petrographical analyses, with the addition of CaO, MgO, $CaZrO_3$, Ti or Zr. The stability of ZrO_2-CaO- and ZrO_2-MgO solid solutions with prolonged heating on air and in a vacuum at 1200° and short heating in a vacuum at 2100° was also investigated. For a complete transition of monoclinic Zr_2 into cubic Zr_2 an addition of 5% MgO or 2.5% MgO + 2.5% CaO is sufficient. However, an addition of 5% of CaO is inadequate.

Card 1/2

L 29336-66

ACC NR: AR6004371

The constants of reaction speed and activation energy of the reaction of binding MgO and CaO with ZrO_2 was calculated. Based on experiments of destabilization of solid solutions the most expedient way was shown of using Ca compounds for stabilizing ZrO_2, especially for processes in a vacuum. D. A.

SUB CODE: 07/ SUBM DATE: none

Card 2/2   CC

ACC NR: AP6034760   SOURCE CODE: UR/0020/66/170/005/1140/1142

AUTHOR: Tarnopol'skaya, R. A.; Gul'ko, N. V.

ORG: Ukrainian Institute of Refractories (Ukrainskiy institut ogneuporov)

TITLE: Structure of the strontium oxide-zirconium dioxide system

SOURCE: AN SSSR. Doklady, v. 170, no. 5, 1966, 1140-1142

TOPIC TAGS: high temperature ceramic material, oxide ceramic, strontium oxide, zirconium dioxide, zirconate, phase diagram, refractory compound, strontium compound, zirconium compound

ABSTRACT: The $SrO-ZrO_2$ system has been restudied to check the existence of the previously reported Sr_2ZrO_4 compound and to plot the phase diagram of the system. The study is of interest for the technology of ceramics and refractories. Microscopic, x-ray, and chemical analyses of the annealed samples of various $SrO:ZrO_2$ compositions confirmed the existence of two compounds within the system, one of them $SrZrO_3$. The sample of a composition corresponding to Sr_2ZrO_4 was found to contain $Sr_5Zr_3O_{11}$ and free SrO. The newly detected $Sr_5Zr_3O_{11}$ was synthesized from the oxides at 1300—1500C and $SrZrO_3$ was formed at 1200—1400C. The compound $Sr_5Zr_3O_{11}$ melts incongruently at ~ 2200C yielding $SrZrO_3$. Physical properties of $Sr_5Zr_3O_{11}$ were determined. The experimental fusibility data of various $SrO:ZrO_2$ compositions differed substantially with the earlier data of H. Wartenberg and H. Werth (Zs. anorg. u allgem. chem., 190, 178 (1930)). An approximate phase diagram

Card 1/2   UDC: 541.123.2

ACC NR: AP6034760

of the $SrO-ZrO_2$ system was established which exhibits two eutectic points: 2100C and and 2270C which correspond approximately to 80% SrO and 26% SrO, respectively. Formation of solid solutions in the system was not observed. The paper was presented by Academician N. V. Belov, 1 Feb 66. Orig. art. has: 2 tables and 1 figure.

SUB CODE:// 07/ SUBM DATE: 31Jan66/ ORIG REF: 001/ OTH REF: 003/

Card   2/2

ACC NR: AP6034572   SOURCE CODE: UR/0020/66/170/006/1380/1382

AUTHOR: Tarnopol'skaya, R. A.; Gul'ko, N. V.

ORG: Ukrainian Scientific Research Institute of Refractories, Kharkov (Ukrainskiy nauchno-issledovatel'skiy institut ognouporov)

TITLE: Subsolidus structure and fusibility curve of the $SrO-Al_2O_3-ZrO_2$ system

SOURCE: AN SSSR. Doklady, v. 170, no. 6, 1966, 1380-1382

TOPIC TAGS: strontium compound, aluminum oxide, zirconium compound, phase diagram, refractory

ABSTRACT: The subsolidus structure of the $SrO-Al_2O_3-ZrO_2$ system was studied by microscopic and x-ray methods on sintered samples at 1600-2000 °C. The triangulation of the system was performed and is shown in Fig. 1. Judging from the lack of change in the optical and x-ray constants of the compounds formed, no appreciable concentrations of ternary solid solutions are formed in the system. Fig. 1 also shows the fusibility curve of the system. The most fusible eutectic is located close to the eutectic of the binary system $Sr_3Al_2O_6-SrAl_2O_4$ and melts at about 1500 °C. It was found that the $SrO-Al_2O_3-ZrO_2$ system contains a broad range of compositions suitable for the preparation of refractories with service temperatures up to 1600°. The x-ray analysis was performed by S. V. Lysak. The paper was presented by Academician Belov, N. V., 17
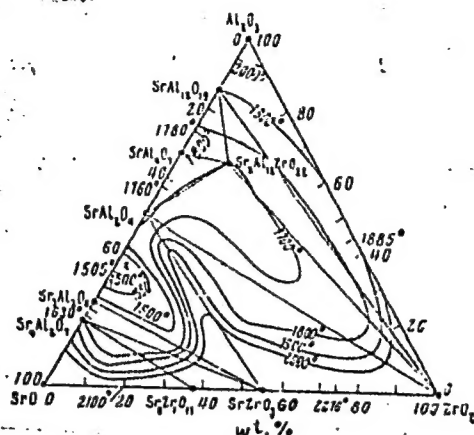
Card 1/2   UDC: 541.123.3

ACC NR: AP6034572

Feb 66.   Orig. art. has: 3 figures and 1 table.

Fig. 1

SUB CODE: 07/ SUBM DATE: 25Jan66/ ORIG REF: 003/ OTH REF: 008

Carc   2/2

L 29333-66   EWT(m)/T/EWP(e)/EWP(t)/ETI   LJP(c)   WH/WW/JD/JG

ABSTRACT: Sixty-one coexistent pairs of phases were found in the five-component $CaO-MgO-Cr_2O_3-ZrO_2-TiO_2$ system and the length of the conodes between the phases were determined. The elementary tetrahedra of the four $CaO-MgO-Cr_2O_3-ZrO_2$, $CaO-MgO-Cr_2O_3-TiO$, $CaO-Cr_2O_3-ZrO_2-TiO_2$, and $MgO-Cr_2O_3-ZrO_2-TiO$ subsystems containing Cr_2O_3 were drawn. The five-component system was divided into 16 elementary pentatopes and their relative volume was calculated. The presence of continuous $MgCr_2O_4-Mg_2TiO_4$ and $CaZrO_3-CaTiO_3$ solid solutions was established. It was found that the $CaTiO_3-Cr_2O_3$ and $CaTiO_3-ZrO_2$ eutectic type pseudobinary systems with limited solid solutions have eutectic temperatures of 2080 K and 2050 K, respectively. The data show that goods with high refractoriness cannot be manufactured from combinations of peroffskite and high-melting Cr_2O_3 or ZrO_2 but that they can be utilized as

Card 1/2

L 29333-66

ACC NR: AP6002855

a base for the manufacture of ceramics to be used at temperatures not exceeding
1800 K. Orig. art. has: 5 figures and 2 tables.

SUB CODE: 07, 11/ SUBM DATE: 23Dec64/ ORIG REF: 004/

Card 2/2

GUL'KO, T.G. [Hul'ko, T.H.], propodavatel'

Refueling tractors and trucks in winter. Mekh.sil'hosp. 10
no.2:12   F '59.   (MIRA 12:6)

1. Novoushitskiy tekhnikum mekhanizatsii sel'skogo khozyaystva
Khmel'nitskoy oblasti.
            (Tractors--Cold weather operation)
            (Motortrucks--Cold weather operation)

GUL'KO, V., inzhener-kapitan

Principles of autonomous control. Tekh. i vooruzh. no.4:14-16
Ap '64.   (MIRA 17:9)

GUL'KO, V.V. [Hul'ko, V.V.]

Zinc in the liver, kidneys, heart, and femur of human fetuses.
Vestsi AN BSSR. Ser. biial. nav. no.2:111-113 '65.

(MIRA 18:12)

GUL'KOV, N.N.

Avtomaticheskie linii stankov. Kiev, Mashgiz, 1951. 136 p.

Automatic assembly lines of machine-tools.

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of
Congress, 1953.

BEKOV, D.B.; GULL', Ye.A.; BEKOVA, K.S.

Mixed tumors of the abdominal cavity. Khirurgiia 37 no.3:113-114
Mr '61.   (MIRA 14:3)

1. Iz Stavgorodskoy gorodskoy bol'nitsy (glavnyy vrach G.R.
Ivanov) Altayskogo kraya.
                        (ABDOMEN—TUMORS)

KUL'BA, F.Ya.; MAKASHEV, Yu.A.; GULLER, B.D.; KISELEV, G.V.

Study of complex formation between thallium (III) and
1, 10-phenanthroline and 2, 2'-bipyridine by the extraction method.
Zhur.neorg.khim. 7 no.3:689-690 Mr '62.   (MIRA 15:3)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta,
kafedra neorganicheskoy khimii.
     (Thallium compounds) (Phenanthroline)   (Bipyridine)

GULLYYEV, A.; SHTEYNBERG, D.M., prof., rukoveditel' raboty

Insect pests of field crops of the Tedzhen Oasis. Izv. AN Turk. SSR. Ser.biol.nauk no.5:71-75 '65.

(MIRA 18:11)

1. Institut pustyn' AN Turkmenskoy SSR.

GUL'MAMEDOV, Kh.; STEPANOV, V.

Total number of meteors according to observations made in Ashkhabad.
Izv. AN Turk. SSR. Ser. fiz.-tekh., khim. i geol.nauk no.5:129 '61.
(MIRA 14:11)

1. Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR.
(Meteors)

GUI'MAMEDOV. M.(-

42474. O Vozmozhnostyakh Kul'tury Tsvetnoy Karusty V Tadzhikistane, Zapiski Tadzh. S.-Kh. In-Ta, T.I., 1948, S. 209-12.

GUL'MAMEDOV, M. G.

"T he Transfer of Flowering bushes to the Conditions of the Gissar Valley in Tadzhikistan." Cand Agr Sci, Department of Natural Sci, Acad Sci Tadzhikistan SSR, Stalinabad, 1954. (KL, No 5, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (13)
SO: Sum. No. 598, 29 Jul 55

USSR/Cultivated Plants - Potatoes, Vegetables, Melons.   M.

Abs Jour   : Ref Zhur - Biol., No 10, 1958, 44113

Author   : Gul'amedov, M.

Inst   : Tadzhik Agricultural Institute.

Title   : Growing Cauliflower in the Gissar Valley.

Orig Pub   : S. Kh. Tadzhikistan, 1957, No 1, 45-49

Abstract   : It was established at the Tadzhik Agricultural Institute
              in 1947-1949 that under the conditions prevailing in
              Stalinabadskiy rayon cauliflower planted in fall form a
              normal head in spring. For high quality production it
              is necessary to maintain the necessary moisture level in
              the soil and in the air by means of more frequent water-
              ings. Sowing the seeds during the first and the second
              ten days of January and raising the seedlings in small

Card 1/2

Abs Jour   : Ref Zhur - Biol., No 10, 1958, 44113

              feeding pots make it possible to have the crop 10-15
              days earlier. -- L.H. Chernyak

Card 2/2

USSR/Cultivated Plants - Potatoes. Vegetables. Melons.   M-3

Abs Jour   : Ref Zhur - Biol., No 7, 1958, 29801

LILLE-SZYSZKOWICZ, I.;GUIMANTOWICZ, A.

Analysis of studies on Rh factor in pathology of pregnancy. Gin. polska
24 no.4:431-440 Oct-Dec 1953.   (CIML 25:5)

1. Of the Serological Laboratory of the Institute of Hematology (Head
--Docent A. Hausman, M.D.), Warsaw.

GULMANTOWICZ, A.

2204. LILLE-SZYSZKOWICZ I. and GULMANTOWICZ A. Inst. d'Hématol., Warszawa, Chocimska 5. * Examens sérologiques de la structure antigénique des globules rouges humains modifiés sous l'action des enzymes protéolytiques et du périodate de potassium. Serological examinations of the antigenic structure of the human erythrocytes modified under the influence of proteolytic enzymes and potassium periodate SANG 1956, 27/5 (402-411) Graphs 2 Tables 6

The authors have examined the changes taking place in erythrocytes on which they acted with trypsin and bacterial enzymes received from the culture of Corynebacterium flagellatum (this microbe was isolated from panagglutinizing blood). The authors have also examined the antigens of erythrocytes after treating them with potassium periodate. The action of trypsin resulted in the appearance of a big field of antigens R (CDE) and that of P; trypsin did not influence the antigens of AB and MN systems. Bacterial enzymes denuded antigen T. Potassium periodate destroyed antigens Rh (CDE) and antigens of MN system, but it did not influence the antigens of AB system.   Zabłocki - Łódź (IV, 6*)

GUIMANTOWICZ, ANN

LILLE-SZYSZKOWICZ, Irena; GUIMANTOWICZ, Ann

Studies on human sera with anti-antibodies. Med. dosw. mikrob. 9 no.3: 309-314 1957.

1. Z Instytutu Hematologii w Warszawie. Dyrektor; Doc. dr A. Trojanowski.
(IMMUNE SERUMS,
human serums with anti-antibodies (Pol))

GULMANTOWICZ, Anna; KALIŃSKA, Jadwiga

Case of pancytopenia with leukocytic antibodies following blood transfusion. Polskie arch. med. wewn. 27 no.9:1241-1254 1957.

1. Z Dzialu Serologii: Kierownik: prof. I. Lillie-Szyskowicz iz z Kliniki Hematologicznej Kierownik: prof. W. Lawkowicz Instytutu Hematologii Dyrektor: doc. A. Trojanowski.
        (ANEMIA, APLASTIC, etiology and pathoenesis,
           blood transfusions, with anti-leukocyte antibodies (Pol))
        (BLOOD TRANSFUSION, complications,
           aplastic anemia with anti-leukocyte antibodies (Pol))
        (LEUKOCYTES,
           anti-leukocyte antibodies in aplastic anemia caused
           by blood transfusions (Pol))

GULMANTOWICZ, Anna

Analysis of the results of investigation of 348 cases of leukocytic
iso-immunization. Polskie arch. med. wewn. 29 no.3:409-412 1959.

1. Z Dzialu Serologii Kierownik: prof. dr med. I. Szyszkowicz Instytutu
Hematologii Dyrektor: doc. dr med. A. Trojanowski. Adres autora:
Warszawa, Instytut Hematologii, ul. Chocimska 5.)
          (BLOOD TRANSFUSION, compl.
                iso-immun. (Pol))
          (LEUKOCYTES,
                anti-leukocyte antibodies causing iso-immun. reactions
                in blood transfusion (Pol))

WALEWSKA, Irena; GULMANTOWICZ, Anna; KACPERSKA, Elzbieta; FRANKOWSKA, Krystyna; CHOJNACKA, Irmina; KALINSKA, Jadwiga; SENDYS, Natalia

Appearance of iso-antibodies against the blood platelets, leukocytes and erythrocytes after blood transfusion. Polski tygod. lek. 16 no.33: 1262-1267 14 Ag '61.

1. Z Zakladu Serologii; kierownik: dr med. S. Dubiski, z Oddzialu Hematologicznego; kierownik: dr med. S. Pawelski i z Oddzialu Chorob Wewnetrznych Instytutu Hematologii; dyrektor: doc. dr med. A. Trojanowski.

(ANTIBODIES) (BLOOD TRANSFUSION) (BLOOD PLATELETS)
(LEUKOCYTES) (ERYTHROCYTES)

LEWENFISZ-WOJNAROWSKA, T.; ZAORSKA, B.; GULMANTOWICZ, A.; PELCZARSKA, E.

Immuno-electrophoretic examination of the blood serum and urine from child with nephrosis. Pediat. pol 36 no.11:1129-1138 N '61.

1. Z II Kliniki Pediatryzcnej Lekarzy AM w Warszawie z Zakladu Pediatrii Studium Doskonalenia Lekarzy AM w Warswawie Kierownik: prof. dr med. T. Lewenfisz-Wojnarowska i z Zakladu Serologii Instytutu Hematologii w Warszawie Kierownik: dr med. S. Dubiski.
(NEPHROSIS in inf & child)   (ELECTROPHORESIS)
(BLOOD PROTEINS)   (PROTEINS)

GUL'MEDOV, Kh.

Orionid activity in 1958 according to observations from the
astrophysical observatory in Vannovskiy. Izv.AN Turk.SSR no.4·
96-98 '59.   (MIRA 13:8)

1. Institut fiziki i geofiziki AN Turkmenskoy SSR
            (Meteors--October)

1. GUL'MEDOV, KH. D.

2. SSSR (600)

4. Meteors

7. Diurnal variation in the color of meteors.
   Astron. tsir No. 121, 1951

9. <u>Monthly</u> <u>List</u> <u>of</u> <u>Russian</u> <u>Accessions</u>, Library of Congress, February 1953. Unclassified.

GUL'MEDOV, Kh.D.

Studying a unilateral photo of the meteor of August 12, 1953.
Izv.AN Turk.SSR no.5:95-96 '56.   (MLRA 9:12)

1. Institut fiziki d geofiziki Akademii nauk Turkmenskoy SSR.
        (Meteors)

GUL'MEDOV, Kh.D.

Observations of meteor paths in Ashkhabad in 1955-1956. Izv. AN
Turk. SSR no.1:137 '57.   (MLRA 10:4)

1. Institut fiziki i geofiziki Akademii nauk Turkmenskoy SSR.
(Meteors)

23R2

S/165/60/000/002/008/008
A104/A129

3,1550

AUTHOR: Gul'medov, Kh.

TITLE: Distribution of true meteor radiants in the ecliptic plane

PERIODICAL: Akademiya nauk Turkmenskoy SSR. Izvestiya. Seriya fiziko-
               tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 2,
               1960, 127-128

TEXT: Observation results of the course of meteors in relation to
the Earth's apex from June 26 to September 4, 1957, are given in Table 1
showing a certain maximum to the antiapex, i.e., shifts from this to the
antisolar point. The question whether the distribution varies according to
the radiance of meteors was brought up and the results of observations of
radiant and less radiant meteors are shown in Table 2. Meteors of lower
radiance revealed a more even distribution which is closer to the distribu-
tion of telescopic meteors. Distribution in relation to the apex for sev-
eral classes of varying angular velocity are given in Table 3. The curve
designating fast meteors is characterized by a sharp maximum, a feature al-
so observed in telescopic meteors. Obtained data on the distribution of

Card 1/6

23492

Distribution of true meteor radiants ...

S/165/60/000/002/008/008
A104/A129

visible meteor courses permit a rough estimate on the distribution of true
meteor radiants in the ecliptic plane. Prior to the transition from the
distribution of visible radiants to the distribution of true meteor radiants
a number of corrections should be taken into consideration, i.e., sweeping
of meteors by the Earth; gravity, redistribution of radiants due to aberra-
tion and the dependence of the radiance on geocentric velocity. Numerical
values of coefficients calculated by B.Yu. Levin with regard to two velocity
values $V_h = \sqrt{2\,v_0}$ where V_0 = velocity of the Earth and $V_h = \sqrt{1.5\,v_0}$. The
distribution of true radiants taking in the consideration these corrections
is shown in Table 4 and reveals a great majority of overtaking meteors. Com-
parison with data on telemeteors provided by K.A. Lyubarskiy and I.N. Laty-
shev indicate a considerable concentration of radiants of visible meteors
to the antiapex. There are 4 tables and 1 Soviet-bloc reference.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR (Physical
              and Technical Institute of the AS of the Turkmenskaya SSR)

SUBMITTED: January 5, 1960

Card 2/6

24903

S/165/60/000/003/009/009
A104/A129

3,1550

AUTHOR: Gul'medov, Kh.

TITLE: The luminosity function of visible meteors

PERIODICAL: Akademiya Nauk Turkmenskoy SSR. Izvestiya. Seriya fiziko-tekhniches-
kikh, khimicheskikh i geologicheskikh nauk, no. 3, 1960, 123 - 125

TEXT: The article describes visual observations of meteors carried out by
the author, V. Rodionov, V. Nardin and R. Khotinok at the Astrofizicheskaya obser-
vatoriya Fiziko-tekhnicheskogo instituta Akademii nauk Turkmenskoy SSR (Astrophys-
ical Observatory of the Physico-Technical Institute of the Academy of Sciences of
Turkmenskaya SSR) since June 27, 1957, to mark the beginning of the World Geophys-
ical Year. The luminosity function of meteors derived by the processing of avail-
able observation data is given. It is noted that the attention factor varies
slightly from observer to observer. K. A. Lyubarskiy [Ref. 1: Funktsiya sveti-
mosti meteorov potokov i sporadicheskogo materiala (Luminosity Function of Shower
Meteors and Sporadic Material) Trudy Instituta fiziki i geofiziki AN TSSR, v. 5,
1958] states that the luminosity function of meteors is influenced by two frequent-
ly ignored factors, i.e., the angular length of meteors and the discrepancy effect

Card 1/3

The luminosity function   of visible meteors

24903

in the evaluation of the stellar magnitude of joint meteors by both observers.
As the effective visibility area is conditioned by the angular length of meteors
which varies according to brightness, the effective area of each stellar magnitude
(Table 1) was calculated according to

$$S_{eff} = S_{geom} + l\,D$$

where $S_{geom} = \frac{\pi D_2}{4}$; D is the circle diameter; l is the angular length in degrees.
The second factor cannot be predetermined and may, therefore, distort the general
picture. Of particular interest are the luminosity functions of meteors of dif-
ferent angular velocity, where N is the probable number of meteors calculated ac-
cording to Epik's formula. The results given by the author contradict the results
obtained by K. A. Lyubarskiy based on visiual observations by I. S. Astapovich
(Ref. 1) and telescopic observations carried out by K. A. Lyubarskiy and I. N. La-
tyshev during the Geophysical Year. The discrepancy is probably due to the fact
that the results were obtained during the summer period, whereas I. S. Astapovich
carried out his observations in January – March. As to the divergence in telesco-
pic observations, this might be attributed to the diversity of observation objects.
Supplementary observations on all contradictory points are recommended. There are

Card 2/3

24903
The luminosity function of visible meteors

S/165/60/000/003/009/009
A104/A129

5 tables and 1 Soviet-bloc reference.

ASSOCIATION: Fiziko-teknnicheskiy institut AN Turkmenskoy SSR (Physico-Technical
Institute of the AS Turkmenskaya SSR)

SUBMITTED: November 5, 1959

Card 3/3

30278

S/035/61/000/010/032/034
A001/A101

3.2440 (1041)

AUTHORS: Gul'medov, Kh.D., Lyubarskiy, K.A., Latyshev, I.N.

TITLE: Relationship between altitudes of meteors and solar activity

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 10, 1961, 69, abstract 10A491 ("Izv. AN TurkmSSR, Ser. fiz.-tekhn. khim. i geol. n.", 1960, no. 6, 141)

TEXT: The authors make an attempt to discover a relation between the altitude H of meteors and solar activity (Wolf number). It was found from photographic observations at Ashkhabad that on the average:

$$\omega < 100 \quad H_1 = 59 \text{ km} + 0.82 \text{ V g km} \quad (n = 10)$$
$$\omega > 150 \quad H_1 = 57 \text{ km} + 0.77 \text{ V g km} \quad (n = 14)$$
$$\omega < 100 \quad H_2 = 63 \text{ km} + 0.44 \text{ V g km} \quad (n = 10)$$
$$\omega > 150 \quad H_2 = 60 \text{ km} + 0.36 \text{ V g km} \quad (n = 14)$$

where H_1 and H_2 are altitudes of flash and extinction respectively. It is obtained that altitudes of meteors decrease with the rise of solar activity. Pro-

Card 1/2

30278

S/035/61/000/010/032/034
A001/A101

Relationship between altitudes ...

cessing of observations of telescopic meteors leads to the same conclusion.

R. Khotinok

[Abstracter's note: Complete translation]

Card 2/2

GUL'MEDOV, Kh.

Meteorite tracks during 1958-1960 from observations at the
astrophysical observatory in Vannovskoie. Izv. AN Turk. SSR.
Ser. fiz.-tekh., khim. i geol. nauk no.4:130-131 '61. (MIRA 14:12)

1. Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR.
                    (Turkmenistan—Meteorites)

BELOUS, A.T.; GUL'MEDOV, Kh.D.; INOZEMTSEV, Yu.A.; LYUBARSKIY, K.A.;
KALYAKINA, M.I.; SADYKOV, Ya.F.

Meteor observations in Ashkhabad. Issl.ionosf.i met.   no.8:64-68
'62.   (MIRA 15:4)
     (Ashkhabad—Ionospheric research)   (Meteors)

43288

S/031/62/000/008/009/016
E032/E514

$3,1220$
$3,1200$
$3,1710$

AUTHORS: Belous, A.T., Gul'medov, Kh.D., Inozemtsev, Yu.A.,
              Lyubarskiy, K.A., Kalyakina, M.I. and Sadykov, Ya.F.

TITLE: Meteor observations at Ashkhabade

SOURCE: Ionosfernyye issledovaniya (meteory). Sbornik
              statey, no.8. V razdel programmy MGG (ionosfera).
              Mezhduved. geofiz. kom. AN SSSR. Moscow, Izd-vo AN
              SSSR, 1962, 64-68

TEXT: The Astrofizicheskaya laboratoriya IFG AN Turkmenskoy
SSR (Astrophysics Laboratory IFG AS Turk.SSR) has carried out
systematic studies of meteors during the IGY with a view to
obtaining observational material under the following three main
headings: 1) meteor activity as an ionizing factor in the
atmosphere; 2) determination of the density and height of the
homogeneous atmosphere; 3) determination of wind distribution in
the upper atmosphere from observations of meteor-trail drift.
The observations were carried out visually (with and without
telescopes), photographically and by radar. In addition, there
were spectral observations of meteors and telescopic observations
Card 1/3

Meteor observations at Ashkhabade   S/831/62/000/008/009/016
                                        E032/E514

of meteor trails. The results of these observations will be
published later. The present paper gives a summary of the
experimental methods. All the observations were carried out in
accordance with the IGY programme and instructions. The visual
observations without instruments were carried out by two people
who observed the sky through an aperture 2 m in diameter placed
at a height 2 m above the earth's surface and parallel to it.
Each observer was placed horizontally along the meridian, his
head pointing north and his eye located at the centre of the
aperture. Altogether 5016 meteors were observed over a period
of 600 hours. The telescopic visual observations were carried
out with two identical binoculars separated by 0.505 km with a
magnification of X12 and a field diameter of $3.3°$. The limiting
stellar magnitude was 10. Altogether 650 meteors were recorded
in approximately 450 hours and 176 parallaxes were obtained for
them. The radar observations were carried out with standard
radar apparatus giving 80 kW/pulse at a repetition frequency of
50 cps and a carrier frequency of 72 Mc/sec. The mean point
of the seven-element antenna was $22°$ above the horizon, facing
west. Altogther during the 16 months of the IGY, 6216 radio
Card 2/3

S/831/62/000/008/009/016
E032/E514

meteors were recorded (4070 hours). The photographic observations were carried out at two points separated by 20.77 km. One of the points had a set of four Xenon cameras (F = 12.5 cm, D:F = 1:2, frame size 9 x 12). The other point had four HAФA-3c/25 (NAFA-3s/25) cameras with Уран-9 (Uran-9) objectives (F = 25 cm, D:F = 1:25, frame size 18 x 24). In each case the cameras covered an area of about 7000 sq.deg around the zenith. The axes of the two sets were at 10° to each other, which corresponded to meteor heights of 80-100 km. One of the photographic stations included a rotating shutter which facilitated meteor trail measurements. Altogether 100 meteor photographs were obtained (18 parallaxes). The spectral observations were begun in May, 1958 (ordinary flint prisms, dispersion 575 Å/mm). The total number of spectra which were obtained was eight; they contained a large number of lines. Finally, the meteor trails were investigated using a Hertz 8 x 30 binocular with a 6° field of view. Twenty persistent trails were recorded during the IGY period, of which three were also recorded at the two photographic points.

Card 3/3

GUL'MEDOV, Kh.D.

Some results of visual observations of meteors in Ashkhabad.
Issl.ionosf.i met. no.8:112-118 '62.   (MIRA 15:4)
                        (Meteors)

S/831/62/000/008/016/016
E032/E114

AUTHOR: Gul'medov, Kh. D.

TITLE: Some results of visual observations of meteors at
            Ashkhabad

SOURCE: Ionosfernyye issledovaniya (meteory). Sbornik statey
            no.8. V razdel programmy MGG (ionosfera). Mezhduved.
            geofiz. kom. AN SSSR. Moscow, Izd-vo AN SSSR, 1962,
            112-118

TEXT: The Astrofizicheskaya laboratoriya (Astrophysical
Laboratory) of the Institut fiziki i geofiziki AN Turkm.SSR
(Institute of Physics and Geophysics, AS Turkm.SSR) carried a
continuous sequence of visual meteor observations during the IGY.
The method employed is described elsewhere (present collection of
articles, pp 64-68). The present paper reports preliminary analysis
of observations during June 1957 to September 1958. Tables are
reported giving the mean hourly numbers of meteors observed by two
observers throughout this period. A further table gives the
distribution of the directions of motions of meteors obtained by

Card 1/2

Some results of visual observations...   S/831/62/000/008/016/016
                                          E032/E114

the author during six months in 1957. This table shows that the
motion of the meteors was predominantly in the East-West direction.
However, the distribution is affected by major showers and the
position of the apex. Finally, a table is given showing the
variation in the relative heights for July-December 1957. The
relative height was higher in the summer than in the winter and
exhibits an increase in November. The reason for this is said to
be obscure.
There are 5 tables.

Card 2/2

S/035/62/000/010/057/128
A001/A101

AUTHORS: Belous, A. T., Gul'medov, Kh. D., Inozemtsev, Yu. A.,
Lyubarskiy, K. A., Kalyakina, M. I., Sadykov, Ya. F.

TITLE: Meteor observations at Ashkhabad

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 10, 1962, 65,
abstract 10A461 (In collection: "Ionosfern. issled. (meteory),
no. 8", M., AN SSSR, 1962, 64 - 68; English summary)

TEXT: During IGY meteor observations were conducted according to an ex-
tensive program. Two observers recorded visually 5,016 meteors. Double photo-
graphic observations of telescopic meteors yielded 176 pairs during 450 hours.
Radar observations were conducted by means of a standard installation; 6,216
radio-echoes were recorded in 15 months. Base stations located at Ashkhabad
and Vannovskiy took 100 photographs of meteors and 8 spectra. Drift of 20 sta-
ble trails was observed.

Authors' summary

[Abstracter's note: Complete translation]
Card 1/1

GUL'MEDOV, Kh.

Visual observations of meteors in Ashkhabad during the
International Geophysical Year and International Geophysical
Cooperation. Trudy fiz.-tekh. inst. AN Turk. SSR.
8:75-124 '62.   (MIRA 15:11)

(Ashkhabad--Meteors)

AUTHOR: Gul'medov, Kh. D.

TITLE: Some results of visual observations of meteors at Ashkhabad

TEXT: Qualified counting of meteors was carried out by two observers at
the astrophysical laboratory of the Institute of Physics and Geophysics, AS
Turkm. SSR, during the whole period of IGY. The number. of meteors was calculat-
ed by Öpik's formula. The tables presented contain data on direction distribution
of meteors and relative variations of altitudes.

Author's summary

[Abstracter's note: Complete translation]

Card 1/1

GUL'MEDOV, Kh.D.

Photographing meteor tracks. Biul.VAGO no.32:13-14 '62.
(MIRA 15:11)

1. Astronomicheskaya observatoriya imeni V.P.Engel'gardta.
(Meteors) (Astronomical photography)

GUL'MEDOV, Kh.

Observations of Orionids in Kazan in 1961. Astron.tsir.
no.227:24-26 F '62.   (MIRA 16:1)

1. Astronomicheskaya observatoriya im. Engel'gardta.
                    (Meteors—October)

L 23303-65   EWT(1)/EWG(v)/FCC/EWA(d)/EEC-4/EEC(t)/EWA(h)   Po-4/Pe-5/Pq-4/
Pi-4/Pae-2/Peb   GW-2

ACCESSION NR: AR5001323   S/0269/64/000/010/0076/0077

SOURCE: Ref. zh. Astronomiya. Otdel'nyy vypusk, Abs. 10.51.511

AUTHOR: Gul'medov, Kh. D.

TITLE: Air flow in the upper atmosphere over southern Turkmeniya from observations
of meteor trails

CITED SOURCE: Sb. Meteorn. rasprostr. radiovoln, no. 1. Kazan', Kazansk. un-t,
1963, 206-217

TOPIC TAGS: upper atmosphere, meteor trail, meteor trail drift, solar activity,
air current

TRANSLATION: This paper presents the results of determinations of the velocity
and direction of the drift of meteor trails and the diurnal and annual variations
of these values on the basis of more than 100 visual observations made at
Ashkhabad in 1955-1960. An attempt has been made to study the change in drift
velocity with height. The author has demonstrated the dependence of drift velocity
on solar activity. Bibliography of 12 items. P. B.

SUB CODE: AA, ES   ENCL: 00
Card   1/1

L 23293-65   EWT(1)/EWG(v)/EEC-4/EEC(t)/EWA(h)/FCC/EWA(d)   Po-4/Pa-6/Pq-4/Pf-4/
Pt-10/Pae-2/Peb   GW
ACCESSION NR: AR5001324   8/0269/64/000/010/0077/0077

SOURCE: Ref. zh. Astronomiya. Otdel'nyy vypusk, Abs. 10.51.512

AUTHOR: Gul'medov, Kh. D.

TITLE: Drift of luminescent meteor trails determined from photographic observa-
tions at the Astronomicheskaya Observatoriya imeni Engel'gardta (Engel'gardt
Observatory) in 1961

CITED SOURCE: Sb. Meteorn. rasprostr. radiovoln, no. 1. Kazan', Kazansk. un-t,
1963, 218-230

TOPIC TAGS: meteor trail, upper atmosphere, meteor camera, meteor stream, meteor
shower, Orionids meteor shower

TRANSLATION: This paper gives the results of photographic observations of meteor
trails of the Orionids meteor shower made during the period 13-21 October 1961 at
Kazan'. The photographs were taken with a "Zorkiy-3S" camera and a "Yupiter-8"
objective. A total of 4 trails were photographed; 7-8 successive photographs were
obtained for two of them. Information on the change in position of these two
trails in the sky has been presented in the form of graphs and tables. P. B.

Card 1/1   SUB CODE: AA, ES   ENCL: 00

GUL'MEDOV, KH.

AID Nr. 971-40   20 May

UPPER ATMOSPHERIC TURBULENCE ACCORDING TO METEOR TRAIL
OPTICAL OBSERVATIONS AT ASHKHABAD AND KAZAN' (USSR)

Gul'medov, Kh.   Geomagnetizm i aeronomiya, v. 3, no. 2, 1963, 309-313.
                                      S/203/63/003/002/015/027

The results of telescopic and photographic observations of meteor trails
carried out at Ashkhabad (1955) and Kazan' (1961) for the purpose of obtaining
parameters of turbulence in the meteor zone are given. Altitude variation
of wind velocities and directions was determined. A change in trail drift di-
rection with altitude appeared in the form of a spiral similar to the Eckman spiral
in lower atmospheric layers. Condensation formations were noticeable in all
the trail photographs. From the drift of a condensation it was found that
horizontal circulation of the condensation was along a curve 10 km in radius
rotating at a velocity of 59 m/sec. The determination of turbulence param-
eters showed that the Reynolds numbers most frequently encountered were
of the order of 10^4. A tendency of the drift velocity gradient to increase at

Card 1/2

AID Nr. 971-40   20 May

UPPER ATMOSPHERIC TURBULENCE [Cont'd]

S/203/63/003/002/015/027

the ends of trails was detected. Its average value was 50 m/sec·km^{-1}. The turbulence height was found to be 6.3 km. An attempt was made to compare the data of a turbulence-spectrum study with the theoretical expression for the distribution of the wind energy with altitude Z deduced by A. N. Kolmogorov. It was found experimentally that the exponent of Z was 1.8, not 2/3 as given by Kolmogorov.   [KM]

Card 2/2

L 10691-65   EWT(l)/EWG(v)/FCC/EWA(d)/EEC-4/EEC(t)/EWA(h)   Po-4/Pe-5/Pq-4/
Pae-2/Peb/Pi-4   ESD(t)   GW   S/0203/64/004/004/0796/0800
ACCESSION NR: AP4043261

AUTHOR: Gul'medov, Kh.

TITLE: Some data on the turbulence of the upper atmosphere according
to optical observations of meteor trails at Ashkabad and Kazan

SOURCE: Geomagnetizm i aeronomiya, v. 4, no. 4, 1964, 796-800

TOPIC TAGS: atmospheric turbulence, meteor trail drift, meteor shower,
meteor trail, upper atmosphere turbulence, turbulence spectrum

ABSTRACT: Systematic optical (telescopic and photographic) observa-
tions of seven out of several tens of meteor trails observed in the
Perseid and Orion meteor showers were carried out to investigate the
winds and turbulence of the atmosphere at altitudes of 70—110 km
over   Ashkabad (1955—1960). Only those trails which lasted several
minutes and whose initial and terminal altitudes were widely divergent
were selected for study. Analyses were made of the rate and direction
of drift with altitude and of the structure of atmospheric turbulence,
especially that of the wind-field energy distribution. Results in-
        red turbulence of the
        Ashkabad (1955—1960)

Card 1/2

L 10691-65

ACCESSION NR: AP4043261

dicated that the correlation function for large-scale turbulence at these altitudes (H-zone) was $|\Delta V(z)|^2 \sim z^{3/2}$, i.e., it did not follow the two-thirds law. This difference is attributed to the anisotropic character of the turbulence in this zone. Orig. art. has: 4 figures, 3 tables, and 2 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut, AN TurkmSSR (Physico-technical Institute, AN Turkmen SSR)

SUBMITTED: 11Sep63   ATD PRESS: 3116   ENCL: 00

SUB CODE: ES   NO REF SOV: 007   OTHER: 002

Card 2/2

S/0203/64/004/005/0965/0968

ACCESSION NR: AP4046297

AUTHOR: Gul'medov, Kh., Yushkevich, E.S.

TITLE: Structure and diffusion of meteor trails from photographic observations

SOURCE: Geomagnetizm i aeronomiya, v. 4, no. 5, 1964, 965-968

TOPIC TAGS: meteor, meteor trail, meteor trail diffusion, atmospheric turbulence, meteor trail structure

ABSTRACT: This paper presents the results of photometric measurements of the blackening density of successive photographs of stable meteor trails, observed on 21 October 1961 Astronomicheskaya observatoriya im. V.P. Engelgardta (V.P. Engel'gardt Astronomical Observatory) at Kazan'. Two trails were investigated. Partial results were previously published by the author (Geomagnetizm i aeronomiya, 1963, 3, No. 2, 309; Byull. VAGO, 1962, No. 32(39)). The photographs were taken with a camera with a "Yupiter-8" objective (f = 1:2, F = 50 mm). Seven or eight successive negatives were obtained for each trail. Measurements of the blackening density of the image of the trails were made using a MF-4 microphotometer with a magnification of 20. Information is given on the linear dimensions of the trails. It was found that the structure of the

Card 1/5

ACCESSION NR: AP4046297

trail in the second exposure was patchy, consisting of individual condensations. The largest condensations were formed at the beginning and end of the trail. The structure of the trail changed by the third exposure: the condensations in the middle part of the trail merged, only the large condensations at the beginning and end of the trail remaining. There was also a shifting of isophots from exposure to exposure. Figures 1 and 2 of the Enclosure show that with increasing height there is a change in both velocity and the coefficient of diffusion of the trails. These values correlate well with the variation in velocity of drift of the trails. There is an interrelationship between the structure of the trails and their rates of diffusion and drift; this can be attributed to the influence of atmospheric turbulence on the formation and development of trails. It is also shown that attenuation of the trail occurs not only as a result of diffusion, but also due to other phenomena which considerably accelerate this process. Brightness of the trail is also variable with height, as shown by Fig. 3 of the Enclosure. Orig. art. has: 3 formulas, 4 figures and 1 table.

ASSOCIATION: Otdel geofiziki i seysmologii, AN Turkmenskoy SSR (Division of Geophysics and Seismology, Academy of Sciences of the Turkmen SSR)

SUBMITTED: 18May64   ENCL: 03   SUB CODE: AA

NO REF SOV: 004   OTHER: 000

Card 2/5

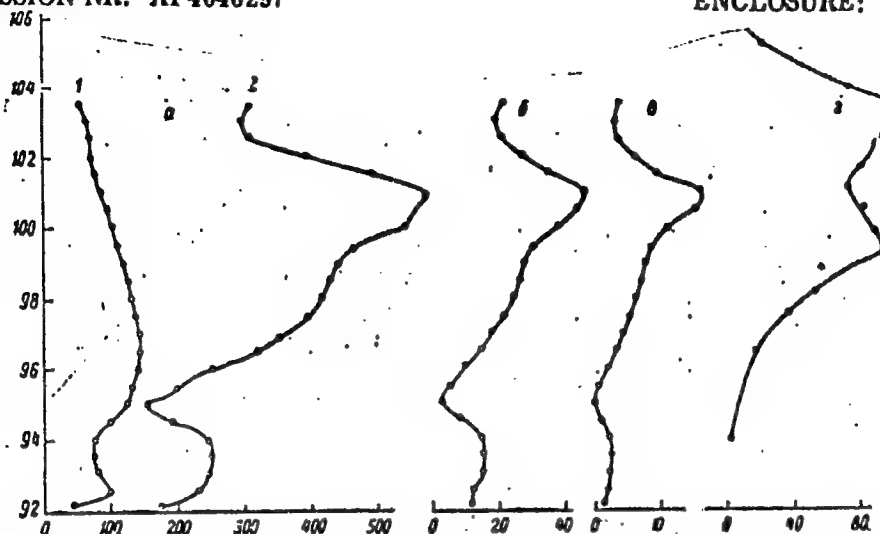ACCESSION NR: AP4046297   ENCLOSURE: 02

Fig. 2.   Velocity profile of the meteor trails, and the variation in coefficient
of diffusion with height.

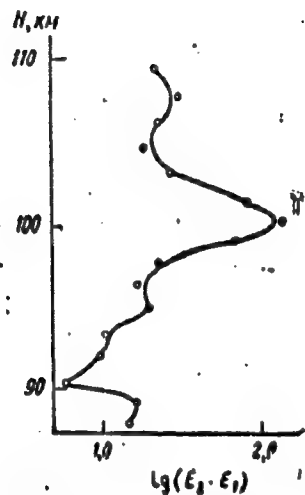Card 4/5

ACCESSION NR: AP4046297

ENCLOSURE: 03

Fig. 3. Relationship between brightness of a meteor trail and height.

Card 5/5

S/035/61/000/012/6/6
A001/A101

AUTHORS: Gul'medova, A., Kuliyev, S., Khandovletov, S

TITLE: An experience of photographic photometry of meteors by tying to
             diurnal trails of stars

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 12, 1961, 76,
             abstract 12A626 ("Izv. AN TurkmSSR, Ser. fiz.-tekhn., khim. i geo.
             n.", 1961, no 2, 128-129)

TEXT: The authors describe the results of photographic photometry of 9
meteors whose photographs were taken at the Astrophysical Laboratory of the Physi
cal Engineering Institute, AS TurkmSSR Their processing was carried out by ty
ing to diurnal trails of B5-F5 stars located near the meteors Errors of camera
field, angular velocity of meteors and the law of reciprocal substitution were
taken into account. Maximum visible stellar magnitudes of meteors subjected to
photometry are tabulated; light curves of 8 of them are presented graphically.
Corrections for non-fulfilment of the law of reciprocal substitution are not take
into account
[Abstracter's note. Complete translation]   P Babadzhanov

Card 1/1

GUL'MEDOVA, A.A.; STEPANOV, V.B.

Results of photographic observations of the Perseid meteor
stream in Ashkhabad, August 1961. Izv. AN Turk. SSR. Ser.
fiz.-tekh., khim. i geol. nauk no.6:122 '61. (MIRA 15:3)

1. Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR.
          (Meteors)

GUL'MEDOVA, A.A.; SIMONENKO, A.N.; YUSHKEVICH, R.S.

Results of photographic observations of meteors. Izv. AN Turk.
SSR. Ser. fiz.-tekh., khim. i geol.nauk no.3:131 '64
(MIRA 18:1)

1. Otdel geofiziki i seysmologii AN Turkmenskoy SSR, Astrofizi-
cheskaya laboratoriya.

GUL'MIRZAYEVA, I.K., aspirant

Influence of gamma radiation on the antitoxin and the ballast
proteins of antidiphtheria serum. Med.zhur.Uzb. no.12:71-74
D '58.   (MIRA 13:7)

1. Iz kafedry biokhimii (zav. - prof. A.S. Volynskiy) Tashkent-
skogo gosudarstvennogo meditsinskogo instituta.
                    (DIPHTHERIA ANTITOXIN)
                    (GAMMA RAYS--PHYSIOLOGICAL EFFECT)

FAZYLOV, I.F.; KHADZHIYEV, K.Kh.; GUL'MIRZAYEVA, I.K.

Study of blood protein in children with chronic dysentery. Izv. AN
Uz. SSR. Ser.med. no.4: 53-58 '59.   (MIRA 12:12)

1. Tashkenstkiy gosudarstvennyy meditsinskiy institut, kafedra detskikh
bolezney lechebnogo fakul'teta i kafedra biokhimii.
              (BLOOD PROTEINS)   (DYSENTERY)

GUL'MIRZAEVA, I.K., aspirant

Indices of the variability of serum proteins under the action of
ionizing radiation. Med. zhur. Uzb. no.3:30-35 Mr '60. (MIRA 15:2)

1. Iz kafedry biokhimii (zav. - prof. A.S.Volynskiy) Tashkontskogo
gosudarstvonnogo meditsinskogo instituta.
(BLOOD PROTEINS)   (RADIATION—PHYSIOLOGICAL EFFECT)

GULMIRZAYEVA, I. K. (USSR)

"The Effect of Ionizing Radiation on the Protein Fractions of the Serum."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

VOLYNSKIY, A.S., prof.; GUL'MIRZAYEVA, I.K.

Detailed elaboration of isotopic indication of proteins. Sbor.nauch. trud.TashGMI 22:310-318 '62.   (MIRA 18:10)

1. Kafedra biokhimii (zav. kafedroy - prof. A.S.Volunskiy) Tash-kentskogo gosudarstvennogo meditsinskogo instituta.

ALTAYEV.Sh..; MUKUSHEV, M.M.; SULEYEV, E.A ; MUZIEGA, V.Ya.; GUL'NEV, G.L.

Using glass reinforced plastic in Karaganda Basin mines. Nauch. trudy KNIUI no.14:162-164 '64.   (MIRA 18:4)

S/0269/64/000/001/0071/0072

ACCESSION NR: AR4014624

SOURCE: RZh. Astronomiya, Abs. 1.51.476

AUTHOR: Gul'nitskiy, L. V.; Gul'nitskaya, T. V.

TITLE: Determination of the solar constant

CITED SOURCE: Sb. nauchn. tr. Kazakhsk. politekhn. in-t, no. 21, 1960, 21-33

TOPIC TAGS: solar constant, meteorological solar constant, solar radiation, atmospheric transparency, transparency coefficient, atmospheric transparency coefficient, atmospheric mass, actinometry, actinometric observation

TRANSLATION: The meteorological solar constant is determined, that is, the quantity of solar radiation incident in 1 minute on 1 cm² on the boundary of the earth's atmosphere in that spectral range which reaches the earth's surface. The value of the meteorological solar constant determined by J. Georgi (Ann. Meteorol., 5, No. 3-5, 1952), equal to 1.80 cal/cm²min, is considered inadequately precise. The principal difficulty involved in determining the solar constant is

Card 1/3

ACCESSION NR: AR4014624

making an allowance for the total effect of the coefficient of transparency of the earth's atmosphere; this problem has been investigated by the authors. The total effect of the transparency coefficient characterizes the dependence of the transparency coefficient on atmospheric mass. Denoting the intensity of the direct solar radiation incident on a plane perpendicular to the rays in the case of atmospheric masses of 1, m and m + 1 by S_1, S_m and S_{m+1}, the meteorological solar constant by S_0, and the parameters characterizing the total effect of the transparency coefficient by k and q, the authors obtain the relation

$$\frac{\lg S_m - \lg S_{m+1}}{\lg S_0 - \lg S_1} = 1 - kq^m \lg(m+1).$$

The applicability of this equation for atmospheric masses from 0 to 10 has been checked by the authors on the basis of two series of actinometric observations. Transforming the derived formula, the authors obtain an expression for determination of the meteorological solar constant in the form

$$\lg S_0 = \frac{C_m \lg S_n - C_n \lg S_m}{C_m - C_n},$$

Card 2/3

ACCESSION NR: AR4014624

where m and n are atmospheric masses and the coefficients C_m and C_n are expressed
through m, n and through the values k and q. Formulas are derived for determina-
tion of these parameters. Applying the described method to a series of deter-
minations of the solar constant made by V. G. Fesenkov (Izv. AN SSSR, 1931, ser.
VII, No. 6), the authors obtain values agreeing well with the generally accepted
values for the ordinary solar constant. On this basis the developed methods also
were used for determination of the meteorological solar constant using observa-
tions made near Alma-Ata. The desired value was found to be 1.918 cal/cm^2min,
appreciably exceeding the result obtained by Georgi. Bibliography of 24 items.
B. Rubashev.

DATE ACQ: 19Feb64   SUB CODE: AS   ENCL: 00

Card 3/3

EL'MAN, L. A.

"A New Measurer of Visibility,"

Iz. Ak. Nauk SSSR, Ser. Geograf. i G ofiz., Nos. 1-6, 1942

L 46008-66   EWT(1)   GW

ACC NR: AR6029446   SOURCE CODE: UR/0169/66/000/005/B020/B020

AUTHOR: Gul'nitskiy, L. V.; Perevertun, A. I.

TITLE: Development of absolute methods of measuring radiation intensity

SOURCE: Ref. zh. Geofizika, Abs. 5B136

REF SOURCE: Tr. Kazakhsk. politekhn. in-ta, sb. 25, 1965, 23-44

TOPIC TAGS: actinometric measurement, radiation, radiation measurement, actinometer receiver, actinometer design

ABSTRACT: The theoretical principles underlying absolute radiation measurement methods developed by the Alma-Ata actinometric group are discussed. A differential equation for the heat process in an irradiated actinometric receiver, and its solution by the author, are given. Methods of measuring radiation when the receiver is a) stationary, and b) nonstationary are discussed. These methods are: a) the compensation heating method. the compensation method, the dual stationary and stationary-pulsed heating method, the differential heating method; b) the dual non-stationary heating method, the nonstationary-pulsed heating method, the pulsed-

Card 1/2   UDC: 551.508.2

L 46003-66
ACC NR: AR6029446

compensation heating method, and the dual pulsed heating method. Mixed methods
of radiation measurement under stationary and nonstationary conditions are also
discussed. These are the pulsed compensation and pulsed-compensation heating
methods. The edge effect is taken into account. Specific actinometric designs based
on the above mentioned methods are enumerated. Bibliography of 8 titles. V. Goli-
kov. [Translation of abstract]   [SP]

SUB CODE: 04/

Card 2/2

Doc Physicomath Sci

GUL'NITSKIY, L. V.

Dissertation: "Rational Methods for Determining the Elements of Radiation Exchange in Atmosphere."
1/3/50

Geophysical Inst. Acad Sci USSR

1.   GUL'NITSKIY, L. A.

2.   USSR (600)

"The Universal Visibility Gage,"
Isvestiya AN Kaakhskoy SSR. No. 54, Astronomical and Physical Series, Issue 3, 1948
(70-86)

9.   METEOROLOGIYA i Gidrologiya, No. 3, 1949.
    ■ Report U-2551.   30 Oct 52.

S/0269/64/000/001/0071/0072

ACCESSION NR: AR4014624

SOURCE: RZh. Astronomiya, Abs. 1.51.476

AUTHOR: Gul'nitskiy, L. V.; Gul'nitskaya, T. V.

TITLE: Determination of the solar constant

CITED SOURCE: Sb. nauchn. tr. Kazakhsk. politekhn. in-t, no. 21, 1960, 21-33

TOPIC TAGS: solar constant, meteorological solar constant, solar radiation, atmospheric transparency, transparency coefficient, atmospheric transparency coefficient, atmospheric mass, actinometry, actinometric observation

TRANSLATION: The meteorological solar constant is determined, that is, the quantity of solar radiation incident in 1 minute on 1 cm^2 on the boundary of the earth's atmosphere in that spectral range which reaches the earth's surface. The value of the meteorological solar constant determined by J. Georgi (Ann. Meteorol., 5, No. 3-5, 1952), equal to 1.80 cal/cm^{2}min, is considered inadequately precise. The principal difficulty involved in determining the solar constant is

Card 1/3

ACCESSION NR: AR4014624

making an allowance for the total effect of the coefficient of transparency of the earth's atmosphere; this problem has been investigated by the authors. The total effect of the transparency coefficient characterizes the dependence of the transparency coefficient on atmospheric mass. Denoting the intensity of the direct solar radiation incident on a plane perpendicular to the rays in the case of atmospheric masses of 1, m and m + 1 by S_1, S_m and S_{m+1}, the meteorological solar constant by S_0, and the parameters characterizing the total effect of the transparency coefficient by k and q, the authors obtain the relation

$$\frac{\lg S_m - \lg S_{m+1}}{\lg S_0 - \lg S_1} = 1 - kq^m \lg(m+1).$$

The applicability of this equation for atmospheric masses from 0 to 10 has been checked by the authors on the basis of two series of actinometric observations. Transforming the derived formula, the authors obtain an expression for determination of the meteorological solar constant in the form

$$\lg S_0 = \frac{C_m \lg S_n - C_n \lg S_m}{C_m - C_n},$$

Card 2/3

ACCESSION NR: AR4014624

where m and n are atmospheric masses and the coefficients C_m and C_n are expressed through m, n and through the values k and q. Formulas are derived for determination of these parameters. Applying the described method to a series of determinations of the solar constant made by V. O. Fesenkov (Izv. AN SSSR, 1931, ser. VII, No. 6), the authors obtain values agreeing well with the generally accepted values for the ordinary solar constant. On this basis the developed methods also were used for determination of the meteorological solar constant using observations made near Alma-Ata. The desired value was found to be 1.918 cal/cm²min, appreciably exceeding the result obtained by Georgi. Bibliography of 24 items. B. Rubashev.

DATE ACQ: 19Feb64   SUB CODE: AS   ENCL: 00

Card 3/3

L 19285-63   EWT(1)/BDS/ES(v)   AFFTC/ASD/ESD-3/APGC/SSD   Pe-4/Pi-4   GW
ACCESSION NR: AR3006550   S/0169/63/000/008/B027/B027

SOURCE: RZh. Geofizika, Abs. 8B175

AUTHOR: Gul'nitskiy, L. V.

TITLE: Problem of perfecting methods of determining the range of visibility

CITED SOURCE: Sb. nauchn. tr. Kazakhsk. politekhn. in-t, no. 21, 1960, 91-94

TOPIC TAGS: visibility, visual range, haze meter, visibility meter, Lummer-
Brodhun cube, telephotometer

TRANSLATION: L. V. Gul'nitskiy's and V. K. Anisimov's improved model of a
visibility range meter is described. The instrument consists of two identical
8-power telescopes rotating independently of each other through 360°. Both
images can be examined through one ocular as the light rays from both telescopes
are passed onto the separating surfaces of a Lummer-Brodhun cube. The instru-
ment's photometric system consists of a photometric wedge which makes it possi-
ble to change the brightness of the field of one telescope, and a unit creating
a masking "haze" in the instrument which is superimposed on both of the images

Card 1/2

L 19285-63
ACCESSION NR: AR3006550   O

being examined. The masking brightness is produced with either an incandescent
lamp or with a milky glass as in V. V. Sharohov's haze meter. The brightness of
the haze is changed by means of varying an iris diaphragm. The instrument's
optical and photometric system makes it possible to use the latter as a visi-
bility meter and as a telephotometer. Because of this, the instrument can be
used in various modifications.   V. Gavrilov.

DATE ACQ: 06Sep63   SUB CODE: SD   ENCL: 00

Card 2/2

L 19291-63   EWT(1)/BDS/ES(v)   ASD/AFFTC/ESD-3/AFGC/SSD   Pe-4   GW

ACCESSION NR: AR3006552   s/0169/63/000/008/B027/B027

SOURCE: RZh. Geofizika, Abs. 8B177

63

AUTHOR: Gul'nitskiy, L. V.

TITLE: Determination of the range of visibility according to the intensity of direct solar radiation

CITED SOURCE: Sb. nauchn. tr. Kazakhsk. politekhn. in-t, no. 21, 1960, 110-121

TOPIC TAGS: direct solar radiation, visibility, atmosphere, atmospheric transparency, vertical atmospheric transparency, transparency coefficient, Kastrov-Savinov correlation, horizontal atmospheric transparency

TRANSLATION: An attempt made at measuring the horizontal and vertical transparency of the atmosphere according to measured values of the intensity of direct solar radiation, is reported. On the basis of a number of simplified assumptions the author obtains an expression connecting the meteorological visibility range near the earth with vertical transparency through the entire thickness of the atmosphere. The transparency coefficient P_a for the earth surface

Card 1/2

L 19291-63
ACCESSION NR: AR3006552

layer, which must be determined according to the measurement of the intensity of
direct solar radiation, enters into the obtained expression. The coefficient P_a
must be determined at different altitudes and introduced in the obtained
expression according to the well known Kastrov-Savinov correlation. Measurements
of the intensity of direct solar radiation from a balloon or from an airplane are
necessary for determining the variation of P_a with altitude. The author substi-
tutes actinometric data obtained at different altitudes in mountains for balloon
and airplane data. Over 8,000 observations were processed according to the ob-
tained formulas and the mean-monthly diurnal variation of meteorological visi-
bility distances vertically and horizontally on clear days is calculated. For the
Alma-Ata region, a clearly expressed maximum for the morning hours and a minimum
between 1200-1500 hours is revealed. The annual visibility variation with a maxi-
mum in January and a minimum in August is obtained by this same method for this
same region.   V. Gavrilov.

DATE ACQ: 06Sep63   SUB CODE: AS   ENCL: 00

Card 2/2

ACCESSION NR: AR3000145   S/0272/63/000/005/0151/0151

SOURCE: RZh. Metrologiya i izmeritel'naya tekhnika, Abs. 5.32.1022

AUTHOR: Gul'nitskiy, L. V.; Maslennikov, N. I.

TITLE: Particularization of the methods of measurement of scattered radiation

CITED SOURCE: Tr. Kazakhsk. s.-kh. in-ta. v. 9, 1961, 87-90

TOPIC TAGS: model compensation pyranometer; scattered radiation

TRANSLATION: Description of a model of a compensation pyranometer for measuring scattered radiation. The receiver plates are 2 disks, 50 mm in diameter and 0.1 mm thick, made of manganin wire. The external surfaces of the disks are coated with magnesium oxide; on one of the disks a layer of carbon black is superimposed on the magnesium oxide layer. Both surfaces are positioned in exactly the same manner within two re-

Card 1/2

ACCESSION NR: AR3000145

cesses of a metal disk covered with a spherical glass shield. The error of determination of intensity of scattered radiation does not exceed + or - 0.002 calorie cm sup -2 minute sup -1. Orig. art. has: 1 illustration. V. Merkulov

DATE ACQ: 21May63   ENCL: 00   SUB CODE: 00

Card 2/2

GUL'NITSKIY, N.S.; PADYUKOV, M.V.; BABAYEV, I.G.

Attaining the rated capacity of the mine No.38. Ugol' 35 no.7:23-25 Jl '60. (MIRA 13:7)

1. Nachal'nik Shakhty No.38 kombinata Karagandaugol' (for Gul'nits-kiy)2. Nachal'nik planovogo otdela Shakhty No.38 kombinata Karagan-daugol' (for Padyukov). 3. Nauchal'nik otdela organizatsii truda Shakhty No.38 kombinata Karagandaugol' (for Babayev).
(Karaganda Basin--Coal mines and mining)

GUL'NITSKIY, N.S.

Competing for the honorable title of enterprise of Communist Labor.
Ugol' 36 no.4:1-4 Ap '61.   (MIRA 14:5)

1. Nachal'nik shakhty No.38 tresta Kirovugol', Kombinata Karagandaugol'.
        (Karaganda Basin—Coal mines and mining—Labor productivity)

GUL'NITSKIY, V. L.

Direct problem of the field of the second normal derivative of
the vertical component of gravity in the case of a two-dimensional
body with n faces and other simpler bodies. Izv. AN Kazakh. SSR.
Ser. geol. no.1:80-99 '60.   (MIRA 13:8)
                    (Prospecting--Geophysical method)

GUL'NITSKIY, V.L.; MABONG, Yu.S.

Determination of the magnetic susceptibility of intrusions.
Trudy Inst.geol.nauk AN Kazakh.SSR no.4:68-71 '61.
(MIRA 14:10)
(Rocks,Igneous--Magnetic properties)

GULO, D.D.

From the history of the theory of the motion of energy. Ist.
i metod. est. nauk 2:135-182 '63.   (MIRA 16:11)

ARTSYBYSHEV, Sergey Aleksandrevich; GULO, D.D., redakter; MAKHOVA, N.N.,
    tekhnicheskiy redakter.

    [Course in physics; textbook for pedagegigal institutes] Kurs fiziki;
    uchebnoe posobie dlia pedagegicheskikh institutev. Meskva, Ges.
    uchebne-pedageg.izd-ve Ministeratva presveshcheniia RSFSR. Pt.2.
    [Electricity] Elektrichestve, 1955. 406 p.   (MIRA 9:4)
                        (Electricity)

GULO, D.D.

N.A.Umov's works on optics. Trudy Inst.ist.est.i tekh. 10:269-298
'56.   (MLRA 9:12)

(Umov, Nikolai Alekseevich, 1846-1915)

GULO, D.D.

N.A.Naumov's views in the fields of natural history and philosophy.
Ist.i metod.est.nauk no.1:115-140 '60.   (MIRA 14:10)
        (Umov, Nikolai Alekseevich, 1846-1915)

GULO, D.D.

Development of the theory of the motion of energy by Russian
scientists. Ist. i metod. est. nauk no.3:214-241 '65.
(MIRA 18:12)

GULO, D.D.; KONONKOV, A.F., kand. fiz.-mat.nauk; OSINOVSKIY, A.N.

History of the foundation of the State Optical Institute;
on its 45th anniversary. Ist. i metod. est. nauk no.3:273-
292 '65.   (MIRA 18:12)

GULO, L.F.

Organization and operation of a center for the control of
thromboembolic diseases; preliminary report. Zdrav.Ros.Feder.
3 no.8:3-6 Ag '59.   (MIRA 12:11)

1. Iz Leningradskoy stantsii skoroy pomoshchi (glavnyy vrach
V.N.Golyakov).
                (BLOOD--CIRCULATION, DISORDERS OF--HOSPITALS)
                (ANTICOAGULANTS (MEDICINE))

ZHEKOVA, Em.; GULCBOV, Iv.

Results and conclusions from the chemistry examinations in the
secondary schools. Biol i khim 7 no.4:34-38 '64

ABRAMYANTS, P.L.; GULORDAVA, Sh.A.

Elephantiasis of the vulva. Akush. i gin. 35 no.2:104-105
Mr-Ap '59.   (MIRA 12:5)

1. Iz Tallinnskoy respublikanskoy bol'nitsy (glavnyy vrach
M.G.Smirnova).
              (VULVA, dis.
                    lymphedema (Rus))
              (LYMPHEDEMA, case reports
                    vulva (Rus))

Gulov, A. V.

14-57-6-12995

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6,
p 167 (USSR)

AUTHOR: Gulov, A. V.

TITLE: An Economic and Geographical Description of the
             Dubovskiy Rayon in Rostovskaya Oblast' (Ekonomiko-
             geograficheskaya kharakteristika Dubovskogo rayona
             Rostovskoy oblasti)

PERIODICAL: Sb. stud. rabot. Rostovsk. finans.-ekon. in-t, 1956,
             Vol 17, pp 84-92

ABSTRACT: The economic and geographical description is preceded
             by an agricultural appraisal of the region's natural
             resources. The author asserts that agriculture can be
             practiced successfully if the water balance of the
             region is attained by artificial means. For this
             purpose, protective forest belts are being planted and
             ponds and reservoirs are excavated; during the course

Card 1/2

14-57-6-12995

An Economic and Geographical Description (Cont.)

of the present five year plan an irrigation and drainage canal will
be extended from the Tsimlyanskoye vodokhramlisheha (reservoir).
The agricultural economy is based mainly on cattle raising and on
field crops. Cattle are raised for wool, meat and milk. The article
describes culture in general, and also its separate branches; it
notes its successful expansion under the fifth five year plan, and
discusses its prospects under the sixth five year plan. The region's
industry is local in character, and is composed of enterprises which
refine agricultural raw materials.   D. I. K.

Card 2/2